

REMARKS/ARGUMENTS

Claims 1-10 are pending. Claim 1 has been amended. No new matter is added hereby.

I. CLAIM REJECTIONS

All the claims (claims 1-10) were rejected in some part under 35 U.S.C. § 103(a) as being unpatentable (obvious) over Gidley (US 5,204,172). Sudaglass Fiber Technology (www.sudaglass.com/fabrics.html) was cited for a basalt fiber fabric layer. Smith et al. (US 5,766,745) was cited for a sodium silicate based adhesive. Thus, we focus our attention to Gidley. A representative figure from Gidley is reproduced below.

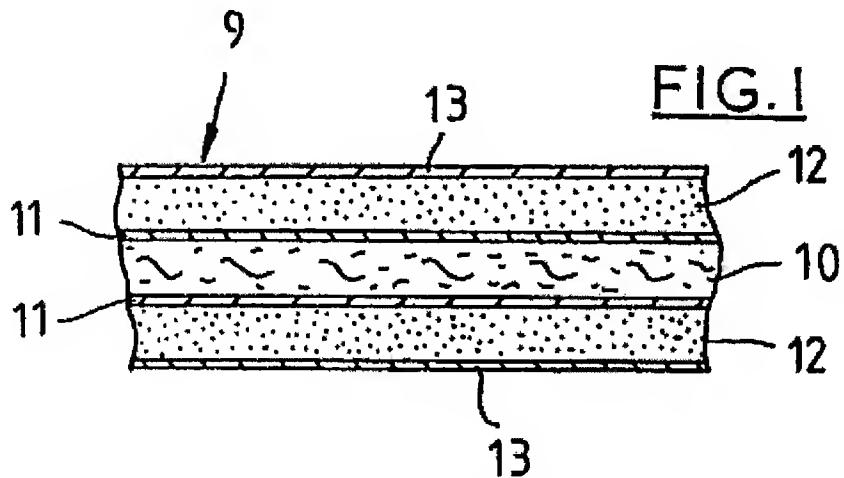


Fig. 1 of Gidley (US 5,204,172)

Claim 1. Claim 1 of the present application has been amended to recite that the flexible insulating material layer is "mineral wool, glass wool, [or] rock wool." This is supported in the specification, for example in paragraph [0034]. Fibers in mineral wool, glass wool, and rock wool often are good conductors of heat; however, as a wool the fibers package air so well that the resulting layer is an excellent insulator.

In contrast to having a layer of "mineral wool, glass wool, [or] rock wool," Gidley shows layers of knitted glass fabric (10) and woven glass fabric (12) (see figure above). Gidley neither teaches nor suggests the use of "mineral wool, glass wool, [or] rock wool."

Smith et al. refers to "glass wool" as a thermal insulation in the prior art for many applications (Smith col. 2, lines 11-15). However, Smith teaches away from using glass wool as a thermal insulation because it is difficult to handle, irritates the skin, picks up moisture, and "does not have a high insulation compact value" (Smith col. 1, lines 28-35). The fibers are brittle and "quickly deteriorate" when rubbed against itself (*Id.*). Accordingly, Smith avoids using glass wool in its fire blocking insulation. Moreover, one skilled in the art would not be motivated to replace a layer in Gidley with glass wool as eluded to in Smith (or mineral or rock wool) because the combination would reduce the strength of the fire barrier. Glass wool has little mechanical integrity compared to the knitted and woven glass fabric that it would replace. Thus, it would not be obvious to one skilled in the art to combine the glass wool mentioned in Smith with Gidley.

Instead of Gidley's two relatively sturdy layers of knitted and woven glass fabric, the invention as claimed incorporates a weak layer (e.g., glass wool) of low mechanical resistance with a strong layer of basalt fiber fabric which can "distribute[] the loads and the mechanical tensions" (specification paragraph [0052]). Thus, a resulting embodiment can be a massive hanging wall of up to 10 x 10 meters (and even larger) that is flexible, fire resistant, and can be easily wound up (see Fig. 1, specification paragraphs [0052] and [0054]).

Furthermore, the invention as claimed is demonstrably superior to the fabrics disclosed in Gidley. Knitted glass fabric, as used in Gidley, possesses less insulative value than that of mineral wool, glass wool, or rock wool. For example, a knitted glass fabric has a typical thermal conductivity of 0.143 W/m K at 400°C. In contrast, glass wool has a typical thermal conductivity of 0.14 W/m K all the way up to 600°C. Although it appears that Gidley's laminated fabric would meet British Standard BS 476 part 20 in which a barrier should maintain its insulation performance for at least 30 minutes (see Gidley col. 1, lines 8-12), an embodiment of the present invention has withstood a fire test in much more trying conditions. An embodiment of the present invention withstood a fire test under NBN 713.020 in which it lasted

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PATENT

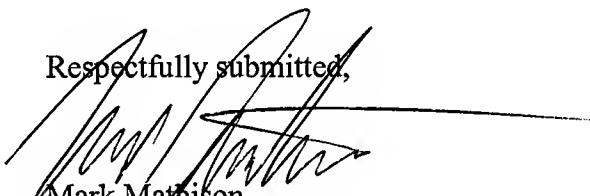
for 54 minutes under conditions which reached nearly 1000°C (see specification paragraph [0057]). Therefore, the novel application of "mineral wool, glass wool, [or] rock wool" with basalt fiber fabric layers for mechanical integrity, is superior to and patentable over the prior art.

Applicant therefore respectfully requests the withdrawal of the rejection of claim 1 for at least the above reasons, and of all nine claims depending therefrom based at least on their dependency from the independent claim.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,

Mark Mathison
Reg. No. 57,556

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 925-472-5000
Fax: 415-576-0300
MPM:sea
61489004 v2